



SafeGuard™

Buckle Up With Confidence

U.S. Patent & Trademark Office

Patent

Federal Trade Commission

Antitrust Guidelines

U.S. Patent & Trademark Office

Patent

State Tax Law

Antitrust Law



Bringing Safety to People™

Safety Components

Car Seat Systems Testing Services

Whether buckling your own child

or building products that

protect your most precious cargo,

depend on the leader in

child safety innovation with confidence.

IMI

Testing

OUR TEST FACILITY

At IMMI's CAPE facility, we bring advanced technology and talented, creative people together to provide you with excellence in testing systems and data analysis. Commitment to progress and dedication to your needs make CAPE "The World's Foremost Test Center".

CHILD SAFETY SYSTEM TESTING

Our facility was planned and developed using state-of-the-art equipment including dynamic crash simulation deceleration sleds. IMMI's CAPE offers child safety system testing and documentation analysis to ensure compliance with statutory and regulatory specifications. Mechanical testing is used to analyze durability of child safety components, safety systems, and to document compliance to FMVSS, ECE and other international standards.

SLED TESTING

Using a wide variety of pulses and ATDs to evaluate components and safety systems, sled testing is an excellent research and development tool for reducing time to market for new products.

DATA DOCUMENTATION

Each customer is assigned a CAPE Test Engineer to help develop a test plan that meets your objectives. Test events are recorded by still camera, high speed digital imagers, or film cameras and documented on CD or VHS cassettes. Transducer data is recorded digitally and a CD is provided to the customer for future analytical needs. A formal test report, including graphic data documentation and CDs of all original data, becomes the exclusive property of the customer.

SIMULATION

CAPE uses software programs such as LS Dyna, MSC/MARC, and Madymo to conduct structural analysis and occupant motion studies. These tools allow us to work with you to develop components or systems with reduced development time. This process results in lead time reductions for getting new products to market.



Digital Imagers

- Immediate playback of events
- Placement of imagers in selected locations provides multiple views of crash events
- On- and off-board lighting provides easy viewing



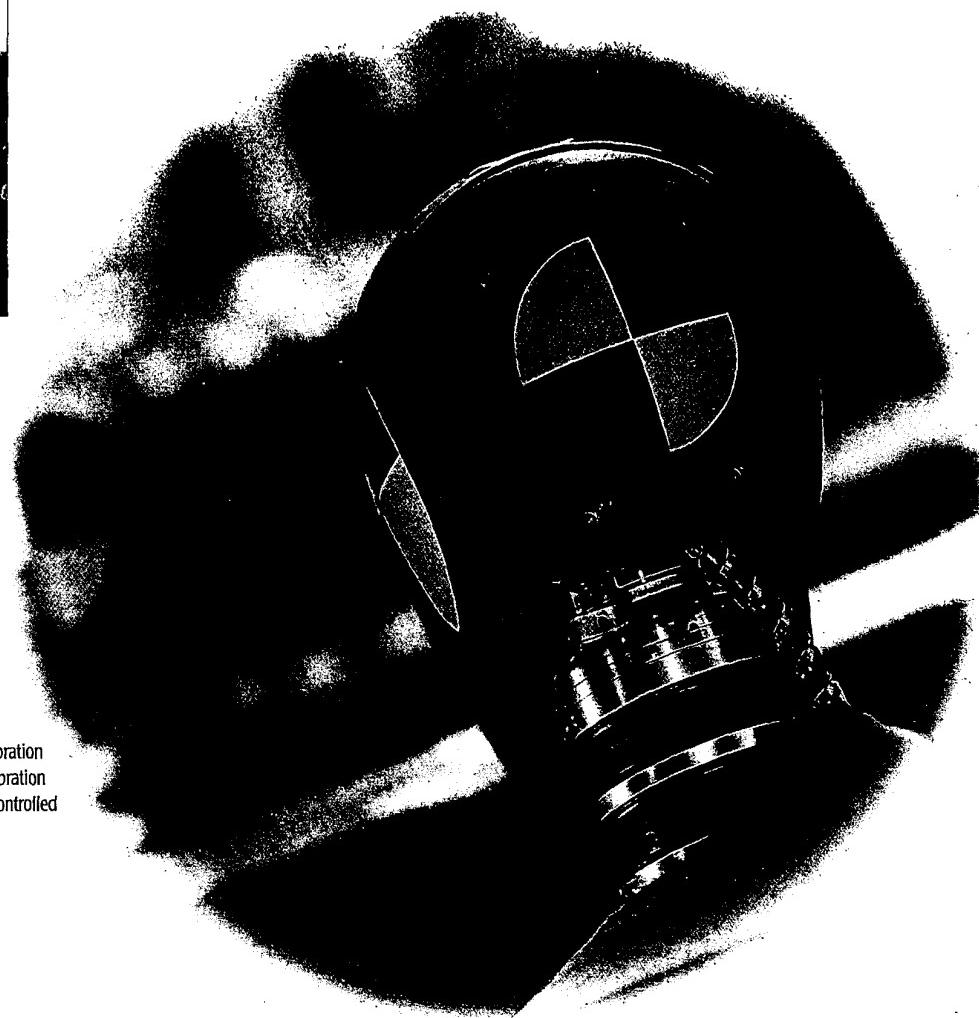
Motion Analysis

- Advanced software tools
- Kinematic studies of occupant movement
- Seat shell deformation studies



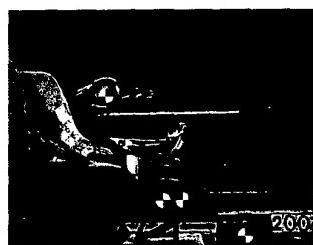
Anthropomorphic Testing Devices (ATD)

- Full range of weights and sizes



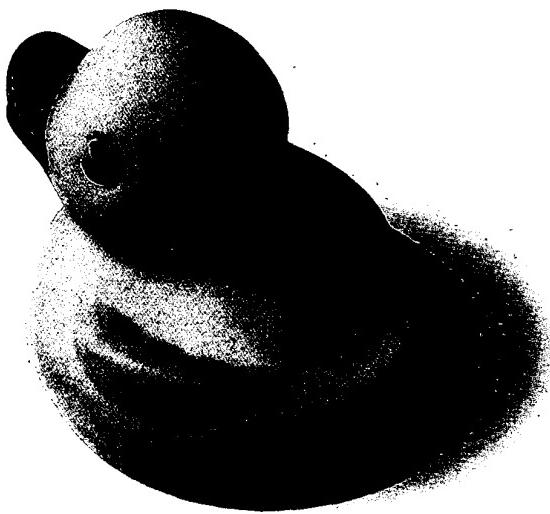
ATD Calibration

- In-house ATD calibration
- Accelerometer calibration
- Environmentally controlled laboratory



Sled Testing

- Custom deceleration pulses
- 33 meter track
- Digital imaging and data acquisition support



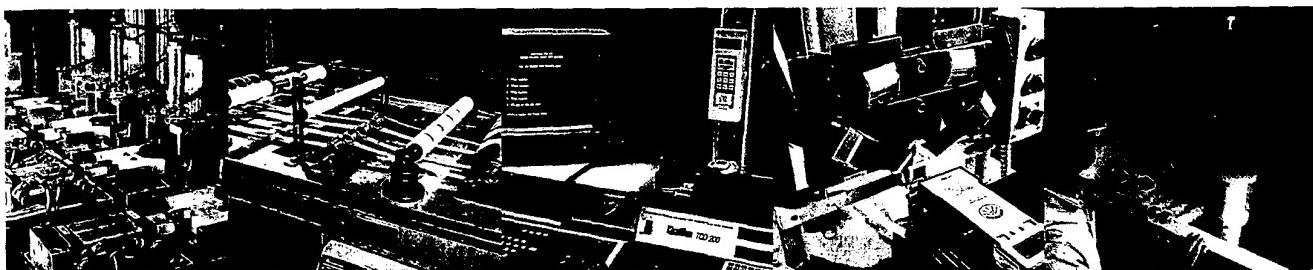
Web Component Cycle Testing

Web Abrasion & Component Cycle Testing

FMVSS-213 Buckle Release Testing

ECE-R44 Buckle Release Testing

Environmental Testing



Safe Seat Systems

IMMI can provide you with child safety systems designed to your specifications. These systems include harnesses, central adjusters, tethers and LATCH.

HARNESS SYSTEMS

Harness designs can be provided in 5-point or 3-point system configurations with a central adjuster. Central adjust systems may use a **SafeGuard A-Lok®** or a **SafeGuard Posi-Lok™** retractor.

3- and 5-point harnesses may also be adjusted by using IMMI's **SafeGuard** mid-belt adjusters. All systems can be designed to meet FMVSS, and ECE standards.

LATCH ATTACHMENT SYSTEMS

LATCH changes everything. By adding LATCH to a car seat, the loads and forces that are transferred to the child's car seat, safety components, and harness systems in a dynamic crash are changed. IMMI has designed the **SafeGuard** LATCH attachment to meet these new dynamics. The **SafeGuard** LATCH system is also designed with the consumer in mind. The easy "push, click, adjust, and release" operation provides an audible sound that ensures attachment and is released with the simple push of a button. So, LATCH with confidence!

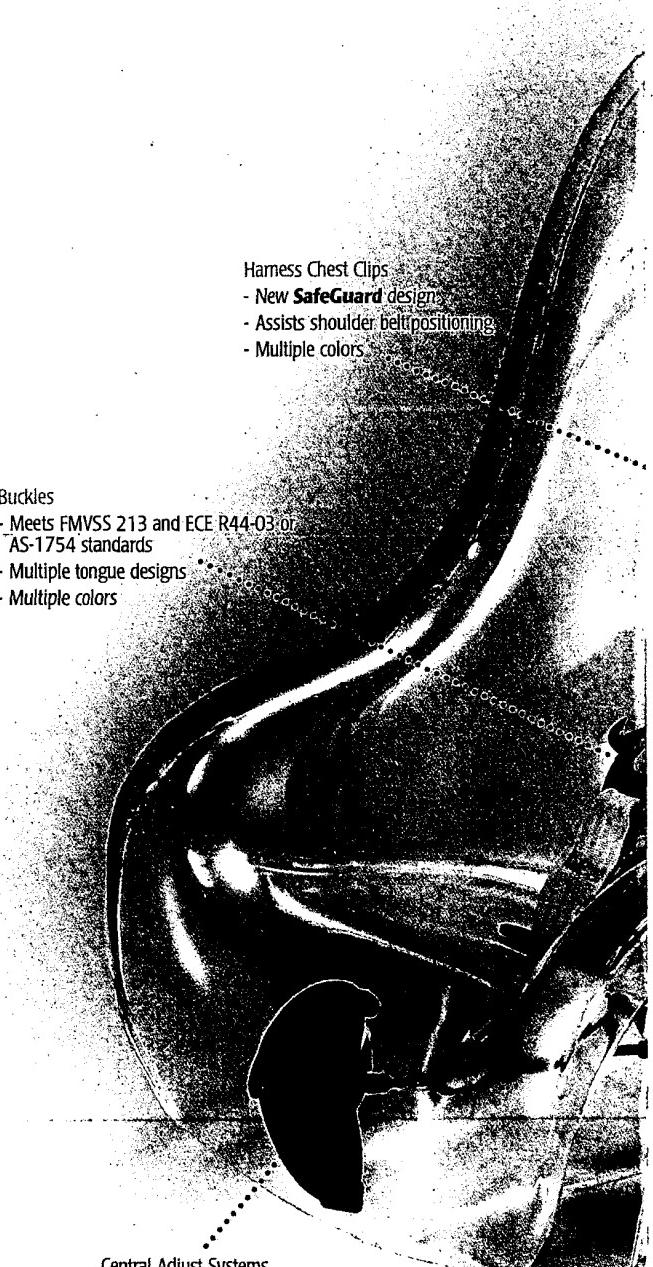
TOP TETHERS

Top tethers are seeing much greater loads than before with the addition of LATCH to child seats. Our **SafeGuard** top tethers are designed to be more robust than older configurations. They are also designed to meet international standards, with an adjuster that meets the U.S. abrasion and European micro slip standards.

CENTRAL ADJUST SYSTEMS

SafeGuard A-Lok systems incorporate new design features to enhance the performance of IMMI's central adjust system. Simple one hand adjustment and ease-of-use are the two features most beneficial to the end user.

Retractable Posi-Lok systems are currently being used around the world in automotive integrated child seats. This technology can easily be adapted to aftermarket or add-on child safety seats.

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- Harness Chest Clips**
- New **SafeGuard** design
 - Assists shoulder belt positioning
 - Multiple colors

Buckles

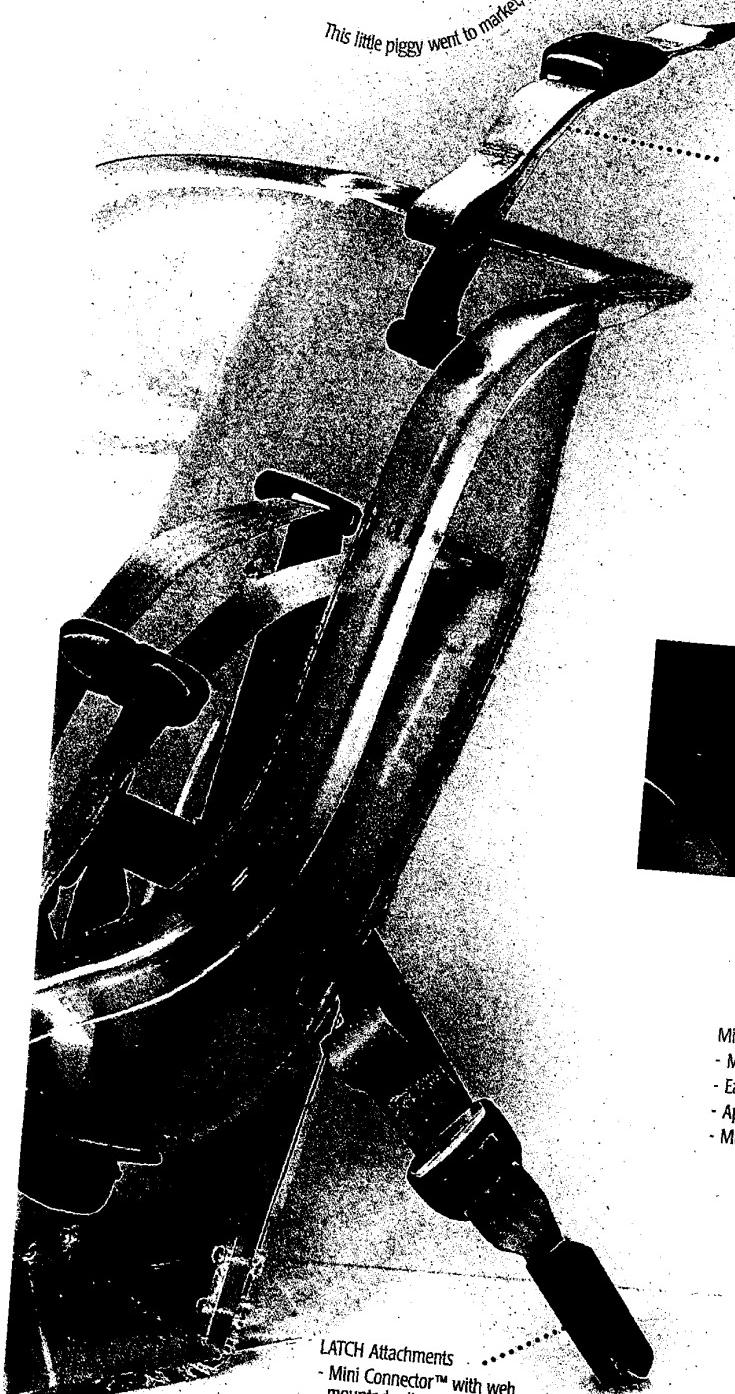
- Meets FMVSS 213 and ECE R44-03/07 AS-1754 standards
- Multiple tongue designs
- Multiple colors

Central Adjust Systems

- Multiple A-Lok designs
- 25mm, 38mm designs available
- Retractable Posi-Lok available

Safety Components

Car Seat Systems



LATCH Attachments

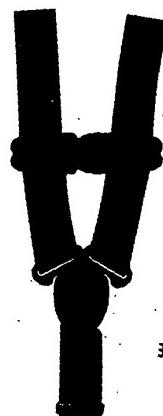
- Mini Connector™ with web mounted adjuster available
- Also available in one piece adjuster/connector design
- Other options available

Top Tethers

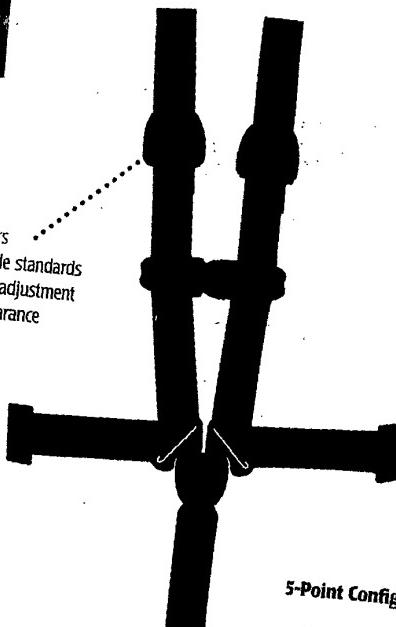
- Meets worldwide standards
- Easy, one hand adjustment
- Multiple colors



This little piggy went to market, this little piggy stayed home, this little piggy had roast beef, this little piggy had none; and this little piggy went wee wee wee all the way home.



3-Point Configuration



5-Point Configuration

Mid-Belt Adjusters

- Meets worldwide standards
- Easy, one hand adjustment
- Appealing appearance
- Multiple colors



Take me off as fast as you can.

Pellentesque sed enim. Nullam.

and put it in the car quickly and easily.

Safety Components

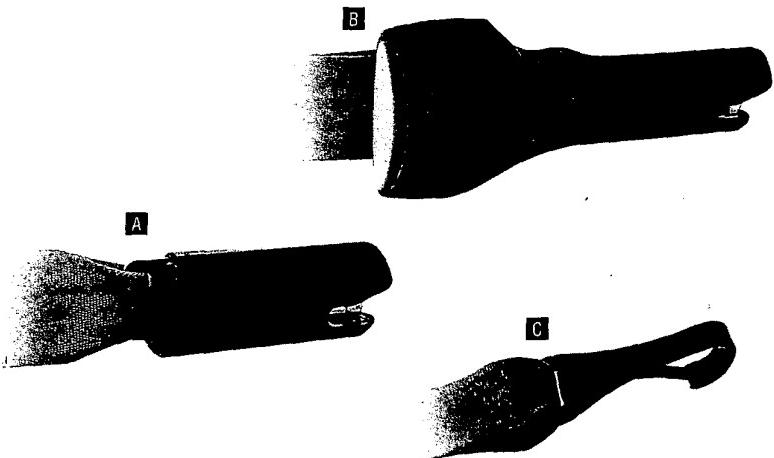
TOP TETHER & BIGHT LINE ATTACHMENTS

IMMI manufactures a wide variety of top tether and bight line attachments. The **SafeGuard** Connector and the Mini Connector™ are the ultimate in LATCH attachments. An easy "push, click, adjust, and release" simplifies installation and removal of car seats in vehicles, giving caregivers confidence. The Mini Connector is available in multiple colors. In a top tether application, the IMMI snap hook provides a safe and quick method of attachment.



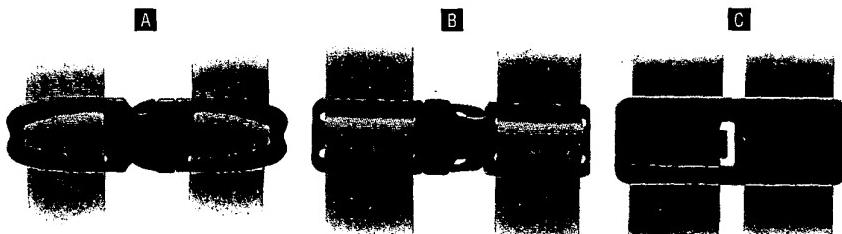
HARNESS CHEST CLIPS

IMMI can provide several choices or options for you in belt positioning chest clips. We feature the **SafeGuard** two piece chest clip. This chest clip is available in multiple colors. The **SafeGuard** chest clip can be personalized with a private label or logo. Standard two piece or one piece belt positioning clips are also available.



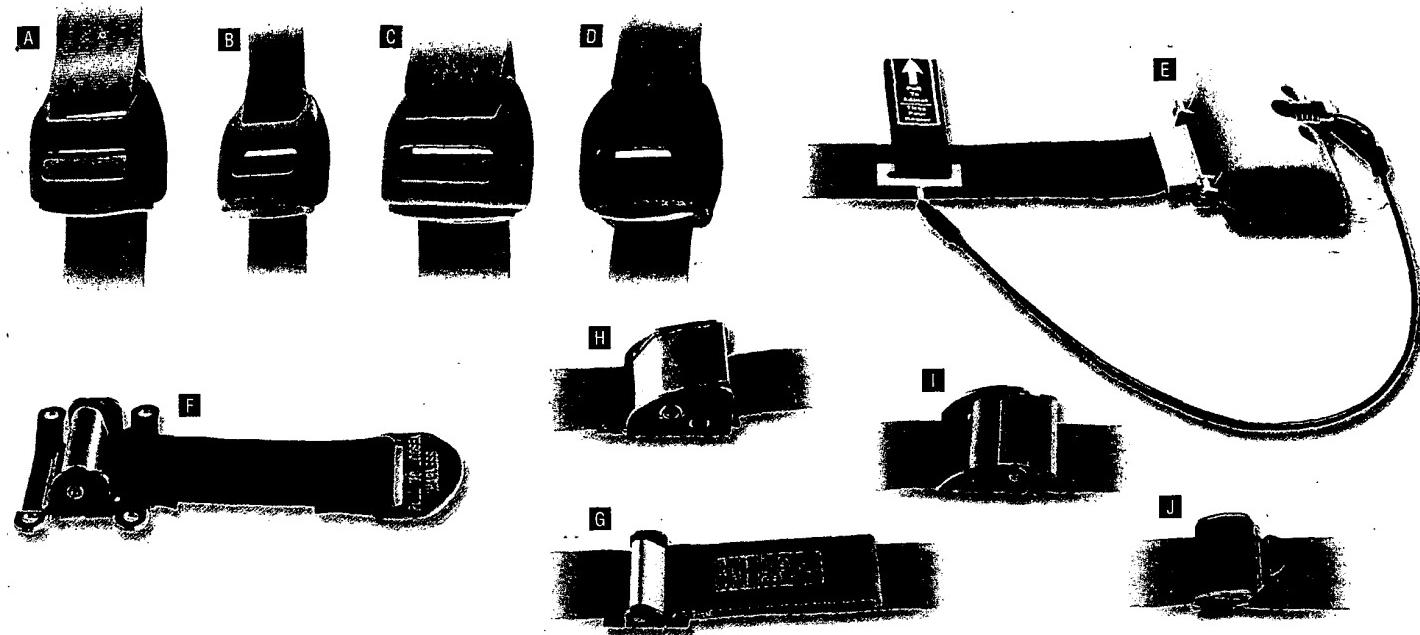
TOP TETHER & BIGHT LINE

- | | | |
|-------------------|-------------------------------------|---|
| A. A38213A | <i>SafeGuard</i> RH Mini Connector | Colors Available |
| A38214A | <i>SafeGuard</i> LH Mini Connector | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| B. A38131 | <i>SafeGuard</i> RH LATCH Connector | <input type="checkbox"/> |
| A38132 | <i>SafeGuard</i> LH LATCH Connector | <input type="checkbox"/> |
| C. 62916 | Tether Snap Hook | <input type="checkbox"/> |



HARNESS CHEST CLIPS

- | | | |
|-------------------|---|---|
| A. F13492A | <i>SafeGuard</i> Two Piece Harness Clip | Colors Available |
| B. F08650 | Standard Two Piece Harness Clip | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| C. 14978 | Standard One Piece Harness Clip | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |



ADJUSTERS

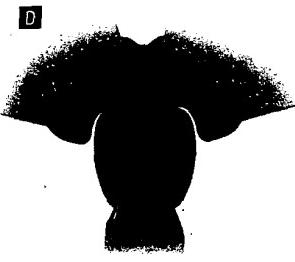
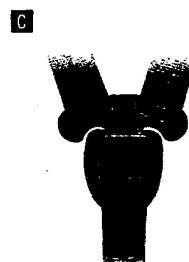
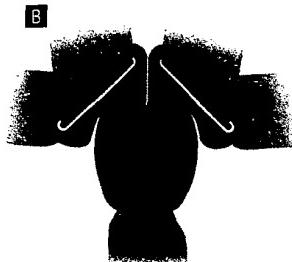
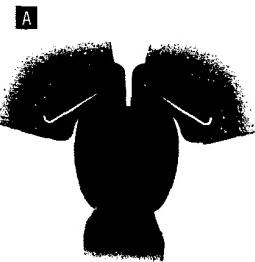
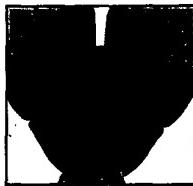
SafeGuard adjusters are specifically designed for tether applications, LATCH bight line applications and harness adjusters for shoulder strap adjustment. Also available are A-Lok® adjusters for IMMI's patented central adjust harness systems, and Posi-Lok™ retractable web retainers that provide central adjust capabilities.

ADJUSTERS

Colors Available

- A. A38279 SafeGuard LATCH/Tether Adjuster
- B. A38287 SafeGuard Mini Mid-Belt Adjuster
- C. A38212 SafeGuard Mid-Belt Adjuster
- D. A38072 SafeGuard Tether Adjuster
- E. Customer Specific Posi-Lok Retractor Web Retainer
- F. A30538 Low Profile A-Lok/Plastic Pull Tab
- G. A38111 38mm Low Profile A-Lok/Web Pull Tab
- H. A30539 25mm Standard A-Lok
- I. A38047 38mm Standard Bent Tab A-Lok
- J. F12213 Tilt Lock Adjuster

Proprietary Designs Available



INFANT AND CHILD BUCKLES

IMMI has been manufacturing dual and single-tongue child safety buckles that meet FMVSS 213, ECE R44-03 and AS-1754 standards for almost 20 years. Infant and child buckles have been, and continues to be, IMMI's core strength. The new **SafeGuard** buckles are the future of buckle innovation. Today's LATCH and ISOFIX standards have brought many changes. Among these are higher loads and forces being introduced into child safety seats and harness systems. **SafeGuard** buckles and **SafeGuard** products are designed to not only accommodate these loads and forces, they are designed to exceed them.

BUCKLES

Colors Available

FMVSS 213 Buckles

- A. A38182 SafeGuard Child Buckle 30° Tongue
- B. A38215 SafeGuard Child Buckle 45° Tongue
- C. A30909AA IBX Infant Buckle
- D. A38129 SafeGuard Child Buckle Large Tongue

ECE R44-03 Buckles

- C. A30909AA IBX Infant Buckle
- D. A38076 SafeGuard Child Buckle Large Tongue

AS-1754 Buckles

- B. A38272 SafeGuard Child Buckle 45° Tongue
- C. A30909AA IBX Infant Buckle
- D. A38185 SafeGuard Child Buckle Large Tongue

Hardware

Whatever your needs, we have the ability to accommodate your design with a wide range of mounting brackets, 3-bar slides, T-bars, yokes, hooks, and keepers.

Hey diddle diddle, the cat and the fiddle,

the cow jumped over the moon.

The little dog laughed to see such fun

and such revelry.

With love from



Whatever your needs, we have the ability to accommodate your design with a wide range of mounting brackets, 3-bar slides, flairs, yokes, hooks, and keepers.



Corporate Headquar

MISSION

By God's grace maintain a dynamic,

growing business with a Christian impact...

by developing and marketing

quality products and providing services

which enrich and protect the lives of those

who use them throughout the world.





Bringing Safety to People™

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